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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,682	01/21/2004	Michael W. Eknoian	1872 DIV.VIN (EM-05-20)	3364
40256	7590	05/10/2006	EXAMINER	
FERRELLS, PLLC P. O. BOX 312 CLIFTON, VA 20124-1706			WU, IVES J	
			ART UNIT	PAPER NUMBER

1713

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,682

Applicant(s)

EKNOIAN, MICHAEL W.

Examiner

Ives Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 12-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-60 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/30/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The recitation of "This is a divisional of U.S. Patent Application Serial No. 09/540033, filed March 31, 2000" should be modified to "This is a divisional application of U.S. Patent Application Serial No. 09/540033 filed on March 31, 2000, now U. S. Patent No. 6683129".

Election/Restrictions

(1). Applicant's election with traverse of claims 1-11 in the reply filed on April 11, 2006 is acknowledged. The traversal is on the ground(s) that the restriction requirement between the process/product Group is erroneous and Group I - III are drawn to an aqueous emulsion with a salt-sensitive copolymer which includes an acidic monomer and additional monomer are not mutually exclusive while different. This is not found persuasive because Groups I - III are not mutually exclusive while different, the classification would differ each other based on the difference, not based on the overlapped scope only. The search effort would depend on the details of classification. It would yield extra burden to work even for different species. As to the process/product claims, applicant alleges that any product could be used in a variety of applications, however, steps involved for the same product used in other applications if the product is eligible for other applications is not the process of making.

The requirement is still deemed proper and is therefore made FINAL.

Double Patenting

(2). The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference

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claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

(3). Claims 1 - 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 11 of U.S. Patent No. US006683129B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant claims 1 - 11 are disclosed in broader scope in respect to the patented claims 1 - 11 of US006683129B1. Therefore, the species/genus relationship establishes between the instant application and US006683129B1. One ordinary skill in the art would recognize all species work successfully for genus so that the patented claims 1-11 of US006683129B1 anticipate the instant claims 1-11 of instant application.

As to the component A and B in **instant claim 1**, Ekonian (US006683129B1) discloses component A and B with narrow range of % in compositions – Claim 1 (Col. 24).

As to the component A to be an acidic ethylenically unsaturated monomer in **instant claim 1**, Eknoian (US006683129B1) discloses component A from about 25% to about 80% of acidic ethylenically unsaturated monomer units, with the proviso that the acidic ethylenically unsaturated monomer units are not acrylic acid – Claim 1 (Col. 24).

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As to the functional group R_{12} and R_{13} to be independently selected from the group consisting of hydrogen, -CN, -NHCHO, -NHCOCH₃ in **instant claim 1**, Ekonian (US006683129B1) discloses functional group R_{12} and R_{13} to be independently selected from the group consisting of hydrogen, -CN, -NHCHO – Claim 1 (Col. 24).

As to acidic ethylenically unsaturated monomer from A to be a carboxylic acid group selected from the group consisting of acrylic acid, methacrylic acid, maleic acid, maleic acid half ester, maleic anhydride, itaconic acid and crotonic acid in **instant claim 2**, Ekonian (US006683129B1) discloses an acidic ethylenically unsaturated monomer from A to be a carboxylic acid group selected from the group consisting of methacrylic acid, maleic acid, maleic acid half ester, maleic anhydride, itaconic acid and crotonic acid – Claim 2 (Col. 25).

As to the acidic ethylenically unsaturated monomer from A to be a sulfonic acid group selected from the group consisting of styrene sulfonic acid, 2-acrylamido-2-methylpropane sulfonic acid, and **sodium vinyl sulfonate** in **instant claim 3**, Ekonian (US006683129B1) discloses an acidic ethylenically unsaturated monomer from A which contains a sulfonic acid group selected from the group consisting of styrene sulfonic acid, 2-acrylamido-2-methylpropane sulfonic acid – Claim 3 (Col. 25).

As to the acidic ethylenically unsaturated monomer from A to be a phosphoric acid group selected from the group consisting of styrene phosphoric acid, **sodium vinyl phosphonate**, and $\text{CH}_2=\text{C}(\text{CH}_3)\text{COO}(\text{CH}_2)_n\text{OPO}_3\text{H}$ where n is from 2 to 4 in **instant claim 4**, Ekonian (US006683129B1) discloses the acidic ethylenically unsaturated monomer from A which contains a phosphoric acid group selected from the group consisting of styrene phosphoric acid, and $\text{CH}_2=\text{C}(\text{CH}_3)\text{COO}(\text{CH}_2)_n\text{OPO}_3\text{H}$ where n is from 2 to 4 – Claim 4 (Col. 25).

As to the **instant claim 5**, Ekonian (US006683129B1) discloses the identical limitations in patented claim 5 (Col. 25).

As to the ethylenically unsaturated monomer from B being (ii) $\text{R}_3\text{OOC}-\text{CH}=\text{CH}-\text{COOR}_4$ wherein R_3 and R_5 are independently ant alkyl group wherein R_3 and R_4 group having **1 – 4** carbon atoms in **instant Claim 6**, Ekonian (US006683129B1) discloses the ethylenically unsaturated monomer from B being (ii) $\text{R}_3\text{OOC}-\text{CH}=\text{CH}-\text{COOR}_4$ wherein R_3 and R_5 are independently ant alkyl group wherein R_3 and R_4 group having **2 – 4** carbon atoms – Claim 7 (Col. 25).

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As to the **instant claim 7**, Ekonian (US006683129B1) discloses the identical limitations in patented claim 7 (Col. 25).

As to the ethylenically unsaturated monomer from B being (iv) $\text{CH}_2=\text{C}(\text{COOR}_7)\text{CH}_2\text{COOR}_8$, wherein R_7 and R_8 to be independently an alkyl group having 1 - 4 carbon atoms in **instant claim 8**, Ekonian (US006683129B1) discloses the ethylenically unsaturated monomer from B being (iv) $\text{CH}_2=\text{C}(\text{COOR}_7)\text{CH}_2\text{COOR}_8$, wherein R_7 and R_8 to be independently an alkyl group having 2 - 4 carbon atoms – Claim 8 (Col. 25).

As to the ethylenically unsaturated monomer from B being (v) $\text{CH}_3\text{CH}=\text{CHCOOR}_9$, wherein R_9 to be an alkyl group having 1 - 4 carbon atoms in **instant claim 9**, Ekonian (US006683129B1) discloses the ethylenically unsaturated monomer from B being (v) $\text{CH}_3\text{CH}=\text{CHCOOR}_9$, wherein R_9 to be an alkyl group having 2 - 4 carbon atoms – Claim 9 (Col. 25).

As to limitations of **instant claims 10 and 11**, Ekonian (US006683129B1) discloses the identical limitations in patented **claims 10 and 11** (Col. 25).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(4). **Claims 1, 2 and 3** are rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al (US006423804B1).

As to the aqueous emulsion comprising a water-dispersible copolymer, 0.5% or more of an inorganic salt in independent claim 1, Chang et al disclose an ion-sensitive, hard water dispersible polymers. More desirably, the ion-sensitive polymers insoluble in salt solution containing from about 0.3 wt% to about 5 wt% of one or more inorganic and/or organic salts containing monovalent and/or multivalent ions. Suitable monovalent and/or multivalent ions

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include, but are not limited to Na⁺ ions, K⁺ ions, Cl⁻ ions, CO₃²⁻ ions and a combination thereof (Abstract, Col. 6, line 12-24).

As to component A from about 10% to about 90% of an acidic ethylenically unsaturated monomer in **independent claim 1**, the acidic ethylenically unsaturated monomer from component A to be a carboxylic acid group of acrylic acid in **dependent claim 2**, Chang et al disclose the ion-sensitive polymers being produced from monomers such as acrylic acid monomer about 50 to less than 67 mol% (Col. 5, line 38-45).

As to the component A to be sulfonic acid group of 2-acrylamido-2-methylpropane sulfonic acid in **dependent claim 3**, Chang et al disclose the ion-sensitive polymers being produced from monomers such as AMPS (2-acrylamido-2-methyl-1-propanesulfonic acid) greater than 0 to about 10 mol% (Col. 5, line 38-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- (5). **Claims 5, 6, 8 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US006423804B1) in view of Levine et al (US003547847).

As to the component B.i, B.ii and B.iv, Chang et al **teach** butyl acrylate, 2-ethylhexyl acrylate. Chang et al **do not teach** such monomers in the aqueous emulsion.

However, Levine et al (US003547847) **teach** the vinyl alkanoates, vinyl acetates copolymers in aqueous emulsion (Abstract). The alkyl acrylate monomers include ethyl acrylate, methyl methacrylate and the like or combinations thereof (Col. 2, line 33-40). Additional unsaturated compounds can be combined with alkyl acrylates to provide desirable compositions. These compounds include dialkyl esters of monoethylenically unsaturated dicarboxylic acids (which include formula B.ii and B.iv as claimed), styrene (Col. 2, line 46-55)

In view of the functional equivalent acrylate monomers such as n-butyl acrylate, ethyl acrylate, 2-ethylhexyl acrylate, methyl methacrylate in aqueous emulsion copolymer as component of alkyl acrylate disclosed by Levine et al, thus, it would have been obvious to one of ordinary skill in the art to replace butyl acrylate, 2-ethylhexyl acrylate of Chang et al with methyl methacrylate of Levine et al based on their interchangeability, motivated by a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

The advantages of using dialkyl esters of monoethylenically unsaturated dicarboxylic acids, styrene in the aqueous emulsion copolymers is to provide desirable compositions for improved adhesion to both chalky and glossy painted surface (Col. 1, line 35-36, Col. 2, line 46-47).

Therefore, it would have been obvious at time the invention was made to add the monomers of dialkyl esters of monoethylenically unsaturated dicarboxylic acids, styrene of Levine et al in the aqueous emulsion of Chang et al in order to obtain the above-mentioned advantages.

(6). **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US006423804B1) in view of Rasicci (US003432455).

As to ethylenically unsaturated monomer B.vii in the **dependent claim 11**, Chang et al **teach** the polymers may comprising any vinyl monomers capable of free radical polymerization. Chang et al **do not teach** the ethylenically unsaturated monomers such as ethylene, propylene.

However, Rasicci **teaches** a wide variety of ethylenically unsaturated monomers such as α,β -ethylenically unsaturated di- and poly carboxylic acids, α -methylene carboxylic acid and esters, styrene, vinyl acetate, hydrocarbons such as ethylene and propylene (Col. 2, line 12-56).

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The advantage of using one or different compounds is to provide the improved polymeric lattices (Col. 2, line 17-18).

In view of the functional equivalent ethylenically unsaturated monomers such as α,β -ethylenically unsaturated di- and poly carboxylic acids, α -methylene carboxylic acid and esters, styrene, vinyl acetate, hydrocarbons such as ethylene and propylene of Rasicci in aqueous emulsion copolymer, thus, it would have been obvious to one of ordinary skill in the art to replace butyl acrylate, 2-ethylhexyl acrylate of Chang et al with ethylene, propylene of Rasicci based on their interchangeability, motivated by a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). Also to obtain the above-mentioned advantage.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu
Art Unit: 1713
Date: May 8, 2006



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700